





## The Horse.

## CLOSING DAYS.

The Wind-Up of the Detroit Driving Club's Meeting.

## FOURTH DAY.

There was a heavy rain on Friday morning and it was pretty wet at Hamtramck Park when business opened up. The first race was the 2:25 class, with eight starters, namely, Domestic, Marvel, Garnet, Mambrinette, Edwin C., White Stockings, Lowland Girl and Gen Smith. In the pools Lowland Girl was the favorite, selling for \$50, Domestic \$9, and the field for \$7. Lowland Girl won as she pleased in 2:20 1/4.

Before the second heat Lowland Girl sold for \$35 in the pools and the field for \$7. The sports brought the field heavily and the outsiders put their money on Lowland Girl. The result was a paralyser. Marvel, looked upon as an outsider, won in 2:22, while Lowland Girl was distanced. It was as fine a job as ever was put up, and the sports in the game were immensely pleased. Mr. J. A. Browne, owner of Lowland Girl, and her driver, had tears in their eyes, and of course, as the daily papers put it, Mr. Browne was above suspicion. He always is. For all that, the heat looked like a square dump of the mare's backers, and the kick they made was long and loud.

Before the next heat pools were selling at \$20 on Marvel, the field at \$10, sports generally taking the field. Domestic, who was sixth in the first heat and third in the second, won easily by two lengths in 2:20 1/4, Garnet second.

Now Domestic was made the favorite at \$50, the field selling for \$10; but more "management" was required to get a greater number of pools sold, so Domestic took the heat in 2:23. The next heat went to Marvel in 2:21 1/4, Domestic second and Edwin C. third.

Marvel and Domestic were the only starters for the next heat, the others being ruled out. The heat looked so much like a job that it was declared off and a driver was put behind Marvel by the judges. But the horse would not trot at all, and Domestic won in 2:20 1/4. The judges awarded the race to Domestic, and declared all bets off. The decision was heartily applauded by the majority of those present. There was at least \$50,000 in the pool-boxes, and several of the drivers of other horses had backed Domestic. The judges made a supplementary ruling that all pools, including those on Lowland Girl against the field, were off, and that the pool-sellers were entitled to their commissions on all money handled on the race. Many argued that the declaring of pools off should not have rendered the Lowland Girl money off, since that had been decided when she was distanced. The judges, however, held that the pools were declared off for fraud, and the fraud vitiated every bet made on the race.

## SUMMARY.

TIE 2:25 CLASS, PURSE \$2,000.			
Domestic	6	3	1
Marvel	2	1	2
Garnet	3	2	6
Mambrinette	4	3	4
Edwin C.	7	5	4
White Stockings	5	4	5
Lowland Girl	1	5	7
Gen Smith	8	6	8

In the 2:30 class six horses started, namely, McLeod, Evans, May Day, Col. Bowers, Belle Ogle, and Ben Star. McLeod was the favorite and brought \$25, while the other five bunched went for \$21. He acted badly in the first two heats, which were taken by Ben Star in 2:25 1/4 and 2:25, McLeod third and fourth. Then McLeod captured the next three straight, and the race.

## SUMMARY—2:30 CLASS, PURSE \$1,500.

McLeod, ch. h. H. Chamberlain	3	4	1	1
Ben Star, b. g. B. T. Geers	1	6	5	5
Evans, b. m. Starkey	6	2	2	2
May Day, br. m. J. C. Brown	2	3	4	3
Belle Ogle, br. m. R. F. Hall	4	5	3	4
Col. Bowers, b. g. J. Welch	5	3	6	8

## TIE.

TIE 2:30 CLASS, PURSE \$1,500.			
First heat	Quarter	Half	Three-quarters
Second heat	0:37	1:14	1:50
Third heat	0:38	1:13	1:49
Fourth heat	0:39	1:12	1:48
Fifth heat	0:35	1:11	1:47

The day closed with the free-for-all race and 2:15 class for trotters undecided, so they were held over until Saturday.

## Fifth Day.

The attendance was light, and the two events on the programme did not prove very attractive, as the winners out-classed their competitors. The free-for-all race had three entries, Mike Wilkes, Toledo Girl and Little Mac. The latter was distanced in the second heat. Toledo Girl took the second heat in 2:25, and Mike Wilkes the first, third and fourth, in 2:16, 2:19 and 2:20.

SUMMARY—FREE-FOR-ALL RACE, PURSE \$1,500.  
Mike Wilkes, b. g. Abe Rohrbach, Stillwater, Minn. 1 2 1 1  
Toledo Girl, m. mare; J. W. Voglesong, Elroy, O. 2 1 2 2  
Little Mac, br. g. W. H. McCarthy, Lexington, Ky. 3 3 3 3

## TIE.

TIE 2:15 CLASS, PURSE \$2,500.			
First heat	Quarter	Half	Three-quarters
Second heat	0:35	1:10	1:45
Third heat	0:35	1:10	1:45
Fourth heat	0:35	1:10	1:45

For the 2:15 purse Arab, J. Q. Spofford, Joe Davis and Charley Hilton started. When the horses scored up for the word for the first heat pools said: Arab, \$25; field, \$5. With Arab barred, the field sold for \$25 and Spofford \$10. The race turned out a gift for Arab, who won it in straight heats, although the driver of J. Q. was accused of holding in that horse in the second heat. In the last heat a new driver was put behind J. Q., which resulted in driving Arab out in 2:17, the fastest heat of the race.

## SUMMARY—2:15 CLASS, PURSE \$2,500.

Arab	1	1	1	1
Spofford	2	2	2	2
Joe Davis	3	3	3	3
Charley Hilton	4	4	4	4

## TIE.

TIE 2:15 CLASS, PURSE \$2,500.			
First heat	Quarter	Half	Three-quarters
Second heat	0:35	1:11	1:45
Third heat	0:35	1:10	1:45
Fourth heat	0:35	1:10	1:45

This closed the meeting, but before the crowd dispersed President Campan announced the awarding of several special premiums contributed by citizens. Stevens & Erdman's road wagon was given to Ekron, the horse that trotted the fastest heat (2:16) during the meeting. Mike Wilkes captured the Mabley & Co. cup for the best average heat, three heats to be considered. Wilkes's average was 2:18 1/4.

Joe L. reduced his record by nine seconds, and by so doing won the Metcalf Bros' cup for the horse which lowered its record most. The M. S. Smith & Co.'s cup for the horse winning the best contested trotting or pacing race during the meeting, the number of heats to determine, goes to Joe L. Orrin Hickok, who won the most heats of any driver at the meeting, gets the Russell House cup. The \$50 in gold given by Swan & Co. to the groom who kept the stall under his charge and the ground around it the neatest, was divided by the association into two prizes of \$35 and \$15. The first prize was won by Edward Cavanaugh, groom of Class Leader, and the second by Joseph Wells, who took care of Madame Maranette's horse Woodlawn.

The Association is said to be about \$10,000 ahead from the meeting.

## Wintering Brood Mares.

Mr. J. C. Fox's (Oregon, Wis.) plan of wintering brood mares is such an excellent one, and conducive of such good results, that a description of it in his own words will interest our readers.

In this State we have, says Mr. Fox, at least six months of a winter feeding period, during which time our mares are largely dependent upon whatever provision we may have previously made for them. Generally we stable them too much and feed them too much grain and other hot, concentrated foods. Their blood becomes hot and thick, their bowels constipated and a general condition of congestion throughout the whole system follows; they become sluggish, soft and inactive. The result of this folly is to find the following spring when the colts begin to come—weak, sickly and dead.

To avoid these heavy losses we must furnish abundance of exercise all winter, with mild, laxative kinds of food. The mares ought to be turned out in the fall so as to get the grass flesh before winter sets in, and become accustomed to running out. Fence off a little pasture of old June grass for them; let it grow up big and rank, and when winter sets in turn them into it; give them an old shed or a little thicket of timber for shelter; a straw rack or straw pile to run to and they will take care of themselves without any grain till along in March. They soon learn to go out and paw away the snow from the long-cured June grass underneath, and help themselves to as toothsome a morsel as could be given them from the hay mow.

After the first of March they usually require some extra feed, as the grass gets eaten off and the snow and hard for them to paw. Shock corn with the ears husked off, bright old straw, small rations of mixed bran and oats, are among the cheapest and best feeds for the purpose. Clover hay should never be fed to brood mares.

Two mares can thus be wintered on less than it would cost to winter one cow or steer and with far greater net returns. I have followed this course with very satisfactory results with twenty or thirty brood mares. We save feed, keep the mares in full vigor and get strong, sound colts.

Too much concentrated food, too generous stables, and too nice and comfortable stables are the sure forerunners of disaster to brood mares. Generally the stallion gets all the abuse for this too, and, being set down as a poor fool-getter, another stallion is tried, only to repeat about the same "bad luck," unless by chance an open winter has induced the farmer to run his mares out and let them "rough it," in which case he generally has a good lot of colts.

I have mentioned this subject of winter management from a full realization of how much abused our brood mares are, and from a sincere desire to assist my patrons in adopting a rational course that will save cost of keep, save their colts, and make good interest on their investment.

Many of our best says Mr. Fox, are lost by gross carelessness at foaling time. The following conditions, he says, should be closely observed:

1. The mare and colt must have a thoroughly dry place to lie on, unless the mare foals late in warm summer weather.

2. As soon as the colt begins to stand and run about the mare and suck freely, then the bowels move more freely. They ought to move within six or eight hours after birth—this is imperative.

The first excrement is very gummy and it is sometimes impossible for the colt to void it without assistance. The straining brings on inflammation of the bowels very rapidly.

I have found the safest plan is to make it a rule to inject each colt during the first half day of its life with about half a tea cup of raw linseed oil in a pint of warm castile soap suds, or warm molasses and cream, mixed half and half, will answer the purpose.

## Horse Gossip.

LORETTA F. won the 2:25 race at Cleveland on Thursday last, bet 2:19. She is a great mare, and has not yet reached her limit.

DOMESTIC, the horse which was compelled to win the 2:25 race, although a slower horse than at least two others in the race, has never been a well horse since. He has been under the care of Dr. Jennings, who says it is doubtful if he ever completely recovers. He nearly died the night after the race.

In the 2:15 race at Cleveland, Jennie Lind won. It took seven heats to decide it, Jennie Lind taking the last three. Time, 2:16 1/4, 2:16 1/4, 2:17 1/4, 2:17 1/4, 2:21 1/4, 2:24 1/4. Argyle, the winner in this class at Detroit, was distanced in the second heat. Charlie Friel took second money. Frank Champ got the fastest heat in the race; 2:16 1/4.

SPAN, the driver, says he will never attend another meeting of the Detroit Driving Club so long as the parties now managing it are continued as its officers. Perhaps Mr. Span is not aware of the strong inducement he thus holds out to keep those men just where they are. "The enemies he has made," are sometimes a certificate of character, and in President Campan's case the abuse of Mr. Span and Mr. Ryan are as good recommendations as he needs with those who appreciate those gentlemen at their true worth.

THE 2:25 race was probably as barefaced a job to work the pool-box as was ever attempted. Its failure through the decision of the judges declaring all pools off is a cause for congratulation among those who like to see a square race. The driver of Lowland Girl should be closely watched hereafter. Of course Mr. S. A. Browne is all right. He is

too fine a gentleman to be guilty of working the pool-box; but he should mildly reprimand that driver, or the censorious public may become suspicious. It was too bad that Mr. Browne's two horses, Sumpter and Lowland Girl, should win the first heats in the 2:25 and 2:25 classes easily, and then drop out of the races so unexpectedly. If the horses were owned by any one else but Mr. Browne, the public would suspect something. But Mr. Browne is, like Caesar's wife, above suspicion.

## The Farm.

## The History of Corn.

The word corn is perhaps of Saxon origin, and signifies the grain or seed of plants used for making bread. According to the European use of the word there are several species of corn, such as wheat, rye, barley, oats, millet, rice, maize and peas, lentils, etc., each of which has its peculiar qualities of usefulness. In this country the term is applied to maize or Indian corn only.

Much has been written on the origin of this grain. Bonafus, in his *Historie Naturelle du Maïs*, expresses his opinion that it came originally from Asia. Mr. J. Crawford, who resided nine years in Japan, says it had been cultivated in the Asiatic islands under the equator from a very ancient period and thence it was carried to China, and from there to India and Turkey.

Gerarde, in his *Natural History of Plants*, written in 1597, under the title "Turkey Corn" describes seven kinds, and a different kind called "Corno de Asia." While both these authors claim that maize came from Asia, they admit that after the discovery of the New World it was re-introduced from there into Europe.

Humboldt and other reputable travelers and writers controvert its Eastern origin, and do not hesitate to declare that it originated solely in America. In proof they cite the following facts: No ancient writer has noticed it, neither has it ever been found in any ancient tumulus, sarcophagus or pyramid; nor is it represented in any ancient Eastern painting, sculpture or work of art.

Joan de Cuba, who wrote the "Ortus Sanitatis," as late as 1491, the year before Columbus landed on American soil, makes no mention of it; but Vega, one of the earliest Peruvian historians, says that the palace gardens of the Incas were profusely ornamented with maize in gold and silver, with all the spikes, grains, stalks and leaves, and that representations of it have been found in the ancient burying places of that country. These are strong proofs not only of the wealth of the Incas, but of the high estimation in which this important grain was held by the ancient Peruvians.

The preponderance of testimony is in favor of the position that maize is indigenous to America, and that it had been cultivated long and extensively by the natives before the discovery of the Western Continent. In further proof of the American origin it may be stated that it is still found growing in a wild state from the Rocky Mountains in North America to the humid forests of Paraguay, where, instead of having each grain naked, as is always the case after long cultivation, it is covered with glumes or husks.

It is by nature a tropical plant, but its flexibility enables it to acclimate readily in any suitable soil from the equator to the 45th parallel, and in favored situations 50° north, and to the 44th° parallel south. But as it changes latitude it also changes somewhat in character, and new varieties are often obtained by these climatic changes.

The plant is tender and most sensitive to atmospheric influences. At every stage of its growth, from the time the plumule appears above ground until it is fully ripe, frost will kill it, and we all know from experience how essential warm nights are to insure rapid growth.

Because of the cool, damp atmosphere of the island, corn will not mature in England. In Brittany the grain seldom ripens, but it is a profitable crop fodder, yielding on the sandy soil that province much larger crops of rough food than either clover or lucerne.

Maize is more or less extensively cultivated in Mexico, the West Indies, most of the South American States, France, Spain, Portugal, and Southern and Central Europe generally; Western Africa, India, China, Japan, Australia, the Sandwich Islands, the Azores, the Madeira, and numerous other ocean isles. Its presence is a deep, rich, warm, dry soil, hence we find it most at home in the fertile plains of the United States, and especially those in the Mississippi basin, for here we find the greatest production in this country.

An ellipse 900 miles long, from east to west, and 600 miles wide, from north to south, with Springfield, Ill., as its center, will inclose an area on which is produced about three-fourths of the entire crop of the United States, the annual yield varying from 1,200,000,000 to 1,500,000,000 of bushels. The total production of the United States for 1884 was 1,936,170,000 bushels, of which 153,588,000 bushels were produced in the 13 States lying altogether or chiefly within the lines of the ellipse, and 432,585,000 bushels in the remaining States and territories.

The first successful attempt of the English to cultivate corn in North America was in 1608, on James River in Virginia.

## Corn Miller.

Sir J. B. Lawes, Bart., LL. D., F. R. S., writes as follows in the *London Agricultural Gazette*:

"It is rather hard upon our agriculturists who have for a long period used every effort to produce—out of a long eared, long legged, hairy greyhound species of animal—a pig resembling a ball of hairless fat, to be told that this animal does not suit the wants of their customers, and that they must produce an animal that has a great deal more lean mixed with its fat. There can be no doubt whatever that the taste of the day has changed, and it will be interesting to inquire into the circumstances which have brought about this change in the requirements of the population.

"Many years ago when I was staying with the late Sir Henry Thompson in Yorkshire, he told me that the taste of the manufacturing population in his district was changing very much. There was a time when the great demand was for very fat

Cotswold mutton, but recently the Down mutton with more lean and less fat was in demand. The explanation he gave for this change was as follows: Formerly a fat chop was put into a frying pan with potatoes and both were fried together. Later, however, the artizan population had become much better off, and took their fat in butter and more costly forms than mutton suet. It is to some extent similar causes that the demand, not only for pork and bacon, but also for beef and mutton, in which fat and lean are more evenly distributed, has of late years arisen. It is not by any means the case that the demands of the population for fatty substances have in any way decreased, but simply that they can obtain their supplies in other and more palatable forms.

The agricultural laborer, in my time, if he ate any meat at all with his bread, it was the fattest bacon he could obtain; and he rarely consumed any other form of fat. But this is all changed now, as he prefers meat with less fat, and takes his supply of fat in more palatable forms.

"There can be no doubt that butterine and the various forms of artificial butter have contributed largely to this altered state of things. The farmers in this country are not altogether blameless in having brought about this unfortunate state of affairs, as the quality of the butter supplied to our large towns was far from being as good as it ought to be, and the consumer appears to prefer a tasteless fat, which is supposed to be butter but is not, to real butter which has more or less, a rank smell or taste.

The more recent advice which the farmer has received to meet the altered condition of the pig industry, is to convert his land into butterine, and so compete with the foreigner in his own trade. How far such a course would be permitted, or if permitted would be successful, I cannot pretend to say. To produce so many pounds of increase in a pig by the cheapest forms of food which can be purchased, is no longer the main object. To produce pork in the fat alternates with the lean in regular layers, requires a different combination of foods. For laying on fat alone, probably no food is better than Indian corn, but for the other process a more nitrogenous diet is necessary, and probably skim milk with peas and rice or barley would furnish the desirable ingredients.

"Many years ago when we were experimenting on pigs, we noticed that the more nitrogenous foods produced a pig which grew more, and the flesh of which was in larger proportion to the fat, than was the case with pigs fed with foods containing less nitrogen; but we did not follow this subject further, as the taste of the day ran in the direction of very fat pork. There can be no doubt that the tendency to put on fat in masses, and without admixture of lean, has been developed in some breeds of pigs, so that give them what food you please, they will continue to fatten. It is important, therefore, to select pigs which retain some of their old characteristics, and by the use of suitable food I have no doubt that any one can produce the pork of the day on which the consumers have set their hearts."

## Mutton Types of Sheep.

One of the results of the depression in sheep husbandry in the United States has been the attention given to raising mutton. Some of these experiments are interesting to us who for a lifetime have studied the subject from an American standpoint. The term American is used emphatically here. That the growing of meat, whether it be of mutton, accompanies the advance of agriculture in this country the same as it does or has in England, France and Germany is a fact, this we find very different conditions here from what they have; and therefore shall have to do with what we have. There are parts of the United States in which the same and similar fates are possible and we may find it profitable to pursue similar processes and methods which they do. We are not past our pioneer period far enough yet to give that close attention to the details of breeding, feeding and fitting our sheep as do the best sheep men in this country nor in England. We are careless, slovenly and in too much of a hurry. We are tending toward independence in our ideas and in our standard of American mutton and how we shall grow it and what we shall grow it from. The breeders of English breeds of mutton are not our raisers of mutton in the west. They expect the crosses of their various breeds to produce the mutton for the market. The raisers of fine-wooled sheep are feeling in many instances the necessity of converting their surplus into mutton and in some localities there is a strong growing inclination to cross with some of the famous mutton breeds. Each one of these breeds has its admirers, each are, American-like, positive and unpromising in their favorites.

Again we find fine wool sheep raisers who are positive that there can be a breed or rather a modification of the Merino sheep that can meet all requirements of a mutton producing sheep, and again we find some who insist that the standard Merino sheep is just as profitable for mutton when properly fattened as any other sheep. Each of these classes of men probably find their several strains of breeding profitable and there need be no contention on the subject.

The hardness and thrift of our American Merino sheep; its easy adaptation to all soils, climates and conditions and has stamped itself upon American sheep husbandry. Because it is so admirably gregarious we think all breeds of sheep should be. Because it is hardy and can secure a living on scant pastures and accidental feed we think any breed of sheep ought to. Because we can keep it until five or six years old and then turn it to the butcher we think we can any breed of sheep. Because it is covered with wool from its nose to its toes we think any breed of sheep should be covered all over. Because we have found the Merino sheep to be the national wool bearing sheep we naturally expect a national mutton producing sheep.

We forget that in England there are many breeds and varieties of sheep, each of them most likely claim their variety is best of all for mutton. They make no decided claims to a wool bearing breed of sheep. They find breeds of sheep indigenous to certain regions or conditions and there lines are the lines of success and failure. Should we expect it different in the United States? Do we not find it so

now? Why are certain breeds so much more healthy in some localities, on almost adjoining farms, than others? Why are lamb troubles of one region so fatal and more common than others. Why is foot rot on some soils so much more common and troublesome in some regions and not in another? Let us go further and ask why are some breeds of sheep so much more affected on the same farms than some other breeds. Have we not yet to learn there are differences in soils, and in fact in breeds, that fit and unfit them for universal adoption. These differences do not come from the good or bad care given them. It is something else.

There are other reasons why American sheep husbandry should be various, or diversified, if that is the right word for the place. Our manufacturers need all the grades of wool. Let the American Merino raisers continue to raise their wrinkly, heavy shearing sheep, the wool is in demand for special fabrics. Let the American Merino raisers modify their types into larger sized sheep with longer staple of wool, the wool as demanded is coming delaine wools, the very wools that Australia is running us on and which bring the highest price. Let the American Merino raisers breed to the Saxony type of wool, we have to import largely of such wools. Let the Merino ewes be crossed with the Shropshire rams. It increases the carcass. The wool is in good demand as medium wools. The lambs mature at an earlier age and can be put upon the market at four months old, or pay well for keep in wool to be sold at one or two years old. Let the Merino ewe be covered with the Cotswold ram, the fleece is a highly desirable wool for certain uses and the carcass like the Shropshire cross is profitable for four months, or one or two years old, so the other breeds may be used upon the Merino ewe and meet certain desirable ends or to be equally generous to all, let the Merino ram be used upon the coarse wool grades to modify the fleece to a better grade and in no wise unfit the carcass for mutton purposes.

The Merino ram has long been used for this purpose and profitably, and always will be. The cry against the mutton of this cross has been foolishly discountenanced. As serious objections are urged against some other types of mutton because we failed to produce it in the way to have it of first choice, we are, and feel thankful about it, in a free country, we pride ourselves upon our democratic ideas. Let us carry these ideas farther than sentiment. They are good business principles and worthy of methods in sheep husbandry. There is room for all, one need not interfere with the other. If we all raised Cotswold sheep we should have to import all of our clothing wools, if we all had Spanish Merino wool of short staple where would our medium and delaine wools come from. If we all raised Saxons sheep the condition of our sheep raisers would be worse. There are soils adapted to each breed. We had as well suit this point well. There are men adapted to each breed of sheep, some for various reasons ought to raise wool, there are men adapted to raising mutton breeds and crosses. There are special reasons for each of these classes of sheep, and as Americans let us do so.

## Rural World.

## Agricultural Items.

A WESTERN farmer says bone meal is a perfect fertilizer for oats and millet.

AN ancient poet advises husbandmen to praise large fields but cultivate small ones.

POETRY in Indiana promises, in most sections, not over half a full yield, owing to the drought.

To feed stock more than they will eat up is not only wasteful but encourages the animals to become dainty and fastidious in food.

A RESIDENT of Hornellsville, N. Y., has been experimenting with kerosene oil to kill burdocks, and has met with complete success. He cuts off the stalk near the surface of the ground, gouges out a small hole in the stump with his knife, and fills it up with oil. He has met with complete success in every instance.

THE Owasco Times says: "Canada thistles are fearfully on the increase, and while some farmers are doing their best to eradicate them, others are indifferent and raise a crop of seed yearly to float around in the air and seed the country for miles around. Some one should attend to this."

A NEW YORK farmer recently referred to a field on his farm that had become completely over-run with daisies, which he cut early, when in full bloom, and put into his barn. This spring he opened them and found them as sweet and fragrant as roses. He is feeding them to his horses and they relish them greatly.

MORE than 100 years ago an old farmer adopted a simple plan that proved efficacious in providing a clean, wholesome cow yard, and at the same time making and saving a large amount of rich manure. His plan was simply to cross a milt plow his cow yard, and thus turn the fresh dung below the surface. This gave the cows a bed of soft, fresh earth to lie on, and by the time it was necessary to plow again, the manure turned under had become so incorporated with the soil as to be no longer offensive. This was continued during the summer, and by fall he had a bed of compost as deep as he had plowed, which, hauling upon his land, he said was as rich and effective as the best barnyard manure.

A NEW YORK farmers' club concludes that farm machines are used up three times as fast by neglect as by use. A member cited a case where an agent for sulky rakes sold one to a neighbor, and from the same lot took one for his own use. The agent was carefully housed and cared for. His neighbor's was neglected, allowed to stand out in the storms and sunshine. At the end of four years his neighbor's tool had become so rickety as to be practically useless, and he came to the agent to buy a new rake. The latter had no rakes on hand, but said to the man that he would sell his own private rake at a trifle below the regular price, that it was as good as new, had been carefully cared for, and the man bought it.

A WRITER in the *Rural World* says: "I have heard farmers argue in all seriousness that sheep and cattle ought to be restrained from lying or standing in the shade, because they thereby lose valuable time when they ought to be grazing! They will gravely tell you that the sheep grow poor in dog days from waste of much time lying under the trees, instead of eating grass as they ought. The truth is, the sheep lose flesh from the

## NEW ADVERTISEMENTS.

## NEW ADVERTISEMENTS.

**BUCKEYE GRAIN & DRILL FERTILIZER DISTRIBUTOR.** Perfect FORCE FEED GRAIN & GRASS SEED. With the Celebrated GLASS FERTILIZER DISTRIBUTOR. Greatest Improvement of the Age. CENTER GEAR. New LEVER for shifting the HOES. One-half the horse power and the other half the cost. This combined Drill has no equal on the market and can not fail to be appreciated by any farmer who sees it. BRANCH HOUSES: Philadelphia, Pa.; Peoria, Ill.; St. Paul, Minn.; Kansas City, Mo.; San Francisco, Cal. Send for Circular to either of the above firms, or to P. P. MAST & CO., SPRINGFIELD, OHIO.

**PHOSPHATE SALT FOR FILL WHOLE.** Write for Prices and Circulars. Car lots and small quantities. Also manufacturers of Lubin Pulverizers, Buckeye Riding and Walking Cultivators, Buckeye Seeders, Buckeye Cider Mills and Hay Rakes.

## A NECESSITY UPON EVERY FARM.

## Economy, Exactness and Carefulness.

Every farmer should have the means of weighing his produce before he sells it, and also what he buys. As a matter of economy there is nothing that will pay him better. The high price of scales prevents many from providing themselves with them, and they are thus at the mercy of every dishonest peddler who may do business with him. One of the very best makes of scales now on the market are those manufactured by the Chicago Scale Co., and for the benefit of those who read the *FARMER* we have arranged with that company to supply orders sent through us at a great reduction. The prices are so low that the saving of loss on a load of wheat, pork, poultry or butter, will pay the entire cost. Just look at the prices below and judge for yourselves.

## The Poultry Yard.

MR.



# Horticultural.

## The Mysteries of Seed Life.

"Excepting the self-interest in a man, there is nothing on earth so difficult to extinguish as the life in a seed. In this connection, there is matter for wonder that Prof. Judd and his backers have so readily thrown up the sponge to those who deny that there can be life left in the seeds found in the mummy tombs of Egypt. Boiled seeds have been made to germinate, and so have seeds after being steeped for prolonged periods of time in salt water and carried for countless leagues athwart the ocean. Hay seeds grow on the stable dung-hill, and those in the stomach of the devoured animal take root where the wild beast devours his prey. Every farmer having his wits about him ought to know that the best and quickest way to get a hawthorn hedge is to feed his turkeys on haws, and they gather up the rejected seeds to be used as seed. The pepper growers of Jamaica know all about this full well; and has not the botanist Luman told us—birds eagerly devour the ripe seeds of the pimento (pepper tree), and musing them, propagate these trees in all parts of the woods. It is thought that the seeds passing through them undergo some fermentation, which fits them better for vegetation than the seeds gathered immediately from the tree." We are well aware that some seeds retain their vitality for many years. Take, for instance, the balsam; we have seen plants grown from seed at least twenty years old; and it is a well-known saying among balsam growers—"The older the seed the better the strain gets." But still, for all that, we do not strongly recommend old seed for our readers. Still there is much common sense in our contemporary's remarks, to which we may add a few words.

"How long may the active principle, or germ, lie dormant in a seed and remain productive?" The seeds of most plants are endowed with a remarkable power of preserving their vitality for an almost unlimited time, when they are placed in circumstances which neither call their properties into active exercise nor occasion the decay of their structure. The conditions most favorable for this preservation are a low or moderate temperature, dryness of surrounding medium, and the absence of oxygen. If all these are attained in the most favorable manner, there seems to be no limit in the period for which seeds will retain the power of performing their vital operations. Now, if moisture or oxygen be not entirely excluded, the same result may take place provided the temperature be low and uniform. Thus many seeds may be kept for years freely exposed to the air if they are not allowed to become damp, in which case they will either germinate or decay. Some of those which have been kept in the seed vessels of plants belonging to the herbarium of Tonneterre, a French botanist, were found to have retained their fertility after the lapse of nearly a century. Frequent instances have been recorded in which ground, recently turned up has spontaneously produced plants different from any in their neighborhood. This, in some cases, is undoubtedly owing to the seeds having been deposited there by the wind, or by other means, and growing because they have found a congenial soil, but there are authentic facts which can only be explained on the principle that the seeds of the newly appearing plants have lain for a long period imbedded in the earth, at such a distance from the surface as to prevent the access of air and moisture, and that they have been excited to germination by exposure to the atmosphere. In Scotland, to the westward of Sterling, there is a large peat bog, much of which has been washed away by raising water from the river Trith and discharging it into the Forth, for the purpose of laying bare the under-soil of clay for cultivation. The clergyman of the parish was on one occasion standing in the field when the workmen were digging a ditch in this clay, in a part where a deposit of this bog had been formed, some twelve feet deep. Observing some seeds in the clay thrown up out of the ditch, he secured and planted them. They germinated and produced a species of chrysanthemum. A very long period must have elapsed since the first covering of the seeds. How long a time was consumed in the slow deposit of twelve feet of peat earth covering them, it is scarcely possible to form an idea. "By what confusion of the elements," says the narrator, "they had been thrown there or how long they had remained quietly sleeping beneath the surface, must be determined by those who know a good deal more than I do." Another example of the same general fact is interesting from its connection with historical events. During the rebellion in Scotland, during the year 1715 a camp was formed at King's Park, at Sterling. Wherever the ground was broken broom sprang up, although none had ever been known to grow there. The plant was subsequently destroyed; but in 1756, after ground was broken up for a like purpose, a similar growth appeared. Some time afterward the park was plowed up and the broom spread all over it. The same thing occurred in a field in the neighborhood, from the whole surface of which about nine inches of soil had been removed. The broom seed could not have been conveyed by the wind, since they are too heavy and without wings, and the formation of ground is such that no stream could have transported them or covered them afterwards with soil. The effect must have been produced by the operation of causes continued through a long period of time. In the northwestern portion of Michigan, where the extensive forests of pine have been cleared, there is observed to start into growth from the seed dense groves of scrub oak, which attain the height of three to twelve feet. During the lifetime of the pine oak was known to grow there, but as soon pine disappeared the seeds of the oak, which must have laid dormant, no one knows how long, sprang into life in localities where no oaks had previously been found within a radius of a hundred miles.

Perhaps the most remarkable instance on record, as presenting satisfactory proof of the lapse of at least 1,600 or 1,700 years during which the seed was dormant, is related by Prof. Lindley: "I have now before me," he said, "three plants of raspberries, which have been raised in the garden of the Horticultural Society from seeds taken

from the stomach of a man whose skeleton was found 30 feet below the surface of the earth at the bottom of a barrow, which was opened at Dorchester. He had been buried with some coins of the Roman Emperor Hadrianus" (who reigned A. D. 117 to A. D. 138.) Grains of wheat inclosed in the bandages of Egyptian mummies are said to have sometimes germinated, and, although there is no improbability in the fact, as the Arabs from which the mummies are usually obtained, are in the habit of previously unrolling the bodies in search of coins, it is not always certain that the seeds which have sprouted were really at first inclosed with the body.—English Paper

## The Neglected Cherry.

While other fruits have been receiving much attention of late the cherry has been neglected, and yet few are more attractive in appearance, more seasonable or inviting in pies or preserves, or more marketable when tastefully packed, fresh or evaporated. I have planted many cherry trees about the fences surrounding my orchards where they have thrived remarkably well with but little attention. These are mostly of the yellow and black varieties. This year the leaves have been more seriously affected by the aphids than ever before. While this class of cherries are of superior quality and of large size they are more apt to rot upon the tree, and the tree is less hardy and enduring than the Morellos. The birds make a great havoc with this class of berries, appearing to distinguish closely in the quality, leaving undisturbed until the last varieties of firm flesh and inclined to acidity. My sweet cherries were completely monopolized, and yet I did not fire a shot at the birds.

In a cultivated field I had quite an orchard of the Early Richmond, planted five years ago. These trees commenced bearing the third year after planting, and they have borne every year since. This year they bore a remarkable crop. The cherries made a beautiful appearance, the red fruit being visible a long distance, like bright ribbons strung through the field, and the fruit was fair and free from worms or rot. This variety commonly known as the sour cherry, is the hardest of all cherries, and at the present date sells higher in the market than any other variety. It is rather dwarfish in habit, is remarkably productive and rarely ever fails to produce a large crop. It appears to be the same cherry that grew in my father's garden forty years ago, and which never failed to give ripe cherries on the 4th of July. I cannot remember in my travels having seen a large cherry orchard; and yet I cannot see why such an orchard should not prove profitable, when there is abundance of all fruits except apples; and yet there are seasons when they bring twice the present price. The cherry is a tree that bears transplanting well, comes into fruiting early and can be produced at small cost. It is an attractive tree in blossom or foliage. Why do we not more often hear its value discussed? I pay one cent per pound for having cherries picked in a careful manner ready for market, and the pickers make satisfactory wages. As cherries are nearly as heavy as lead, they can be grown with profit at three cents per lb. While the cherry thrives in unwatered ground, finer fruit can be grown in fields where cultivation is given. Cherry trees will not bear pruning like the apple and pear. The Hearts and Bigarreaux are easily disfigured by ruptures of the bark through accident or pruning. The wounds do not heal over readily, a kind of gangrene setting in in many instances, which is apparent as long as the tree exists. The Morellos are not as easily injured, neither is the foliage of the Morellos attacked by the aphids, while the varieties of the sweet cherries near by are seriously affected. The cherry makes an attractive tree along the roadside. I have in mind a farmer who planted miles of cherry trees for the roadside around his farm. He did not make wise selections and the cherries were not of a marketable kind, but they bore astonishing crops nearly every year and people came many miles to gather the fruit. Cherries for market should be gathered with the stems on, before they become soft, otherwise they will not endure the long journey to market. They are shipped in grape baskets holding from ten to twenty pounds, with a tight cover. A cherry picker costs one dollar, with which you can pick a bushel of cherries in an hour with an extra hand to feed. The pits are of value for planting in nurseries.—Home Journal.

## Seedling Peaches.

Seedlings, or trees produced from seed can not be depended upon. Seeds from a fine parent may produce a worthless progeny. In the human race, children of the same family are never exactly alike. The female flowers or parts of flowers are feuded with the pollen of thousands of neighboring trees of the same species, growing through the agencies of the wind, insects, etc. Of the many hundreds of thousands of fruit seeds planted, no two fruits have been produced exactly alike in form, size, flavor and color. Nature is ever varying her products. Occasionally a seedling is found resembling very much its parent, and for practical purposes, will take its place, but this is so rarely the case that he who depends upon such methods for procuring trees for orchard purposes will be keenly disappointed. His time and labor will surely be wasted.

There is no difference in the comparative hardness of the graft or bud, and the seedling. The better varieties, as a rule, are more tender than the common or inferior ones, and propagation by grafting and budding of the former has led to the fallacy of their being less hardy. It is not by any means universal, however, that the small, knotty inferior seedling is harder than the large, luscious specimens of the best orchards. The Amosden's June, or Alexandria, which has been propagated by budding for many years, is as hardy as any seedling grown.

With the present advanced stage of experimental horticulture, a list of varieties of peaches ripening through the season, can be selected for an orchard that will surpass in point of hardiness any similar seedling orchard of equal size.

## It was said by the late Dr. Warder:

"A graft is nothing more than a cutting helped; and if a plant from a cutting is hardy, why should its growth be any the

less so when helped by being inserted into a tree or root?"  
If the scion and root are both hardy, and both used when small, the union effected between the two sections of live wood by cellular action, is the same as is constantly being performed between the roots and branches of all trees. There is no reason to believe that the trees thus formed will not be hardy.

Hasty conclusions must be avoided. A tree growing in an exceptionally fertile and favorable place may yield extra specimens, yet being removed to a different soil, or propagated by budding, its true character under average conditions may make an entirely different showing. It would be impossible to select varieties to suit every locality.

In selection of varieties those must be sought that have proven themselves not only of superior quality, but also hardy in reference to cold and sudden changes.—Home and Farm.

## A Fine Plant for the Garden.

One of the most highly prized occupants of my garden is a golden rod, obtained in a corner of an old pasture. I pulled it up by its last year's stalks one day in spring, some years ago, remembering what a brilliant display it had made in autumn, and brought it home with me, thinking that it deserved a place where its beauty could be seen and enjoyed by more lovers of flowers than would be likely to get a glimpse of it in its pasture-land home. It took kindly to the change and that fall it rewarded me with a great crop of magnificent blossoms. It was greatly admired by those who would not have given it a second look if they had seen it growing in the pasture.

I dug in some manure about its roots that fall when I gave my other plants their winter covering of old litter, and the following spring I set up scores of stout stalks. They grew till I began to think they were trying to see how high they could go. The clump was so large that I could not reach around it with both arms. When it came into flower, the sight was a glorious one. The outer branches bent beneath the weight of their yellow plumes, and the clump was like an enormous cushion of gold, being completely covered with flowers. For weeks it was the attraction of the yard, and I was besieged with applications for roots of it. When told that it was simply the golden rod of the fields, given such cultivation as the other flowers of the garden received, people would look at me incredulously. They had never seen it grow like this before. Nor had I.

I think most of our native flowers would amply repay us for taking care of them, and giving them the same cultivation we give other plants not half so beautiful, but cost, for a neat little sum of money.—Our Country Home.

## Cucumbers for Pickling.

Cucumbers for pickling may be planted any time between the 1st of June and the middle of July, and the land should not only be of good quality, and, if possible, of rather a moist nature, but should be heavily fertilized either with superphosphate or well-rotted manure, put in fine condition, and the hills made five or six feet apart, with six or eight seeds planted in each hill. As soon as the plants have attained their third leaf they should be thinned out to three or four in each hill, hoeing them well at the same time, after which the cultivator should be used freely between the rows to destroy any grass or weeds that may make their appearance.

The short, prickly, early cluster and early frame varieties are considered best for pickling, as they grow but three or four inches in length. As soon as they attain sufficient size they should be gathered daily, clearing the vines of all such. Before commencing to gather, have ready an open barrel or keg of strong brine, into which put the cucumbers as fast as they are gathered, and removing any scum as it rises on the brine. After remaining in the brine until the pickling season is over, the cucumbers should be put into fresh brine made of clean rock salt—good liquor or provision barrels being suitable for the purpose.

If the whole process is thus managed the cucumbers can be kept perfectly sound until the next spring or summer, when better prices may be obtained than through the fall and winter. Most pickle dealers prefer to buy them in this condition, as each one has some favorite mode of preparing them for the table. If, however, you have a market for prepared pickles you can prepare them yourself, and for family use the following plan is about as good as any: Take the cucumbers out of the brine and soak them in fresh water, renewing it every day, for three or four days; then drain and put into jars with a pickle prepared as follows: To every gallon of pure cider vinegar add three gallons of brown sugar, two or three sliced onions, a teaspoon of allspice, a teaspoon of cloves (whole) and a pod or two of red pepper. Bring the mixture to a boiling heat, and whilst hot pour it over as many of the pickles as it will cover well. So treated the cucumber will keep for a year or more as sound as you please. Salted cucumbers, or those just out of the brine, generally command in market from twenty to twenty-five cents a gallon, and some years considerably more; so that their culture can be made quite profitable where there are necessary facilities for raising and preparing the same for market.—Baltimore Sun.

## Old Grape Vines.

While the vine, as a rule, is a rampant grower, and if left alone or given all the room it needs, will spread over an immense space, it also submits to the pruning knife and budding of the former has led to the fallacy of their being less hardy. It is not by any means universal, however, that the small, knotty inferior seedling is harder than the large, luscious specimens of the best orchards. The Amosden's June, or Alexandria, which has been propagated by budding for many years, is as hardy as any seedling grown.

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of doors to a row of houses in Northallerton, England, and at its best covered a space of 137 square yards.

## The Asparagus Beetle.

This insect, which has been known in Europe for more than one hundred years, first made its appearance in this country in the vicinity of New York in 1858, and in a very short time spread to the asparagus fields of Long Island, where it was estimated to have caused a loss of \$50,000 in one county in a single year. It has now distributed itself very generally through New Jersey, portions of New York, Connecticut and Massachusetts, and in time will undoubtedly spread over the entire country wherever asparagus is raised.

These beetles hibernate in the mature state, in sheltered places under the bark of trees, in the crevices of fence rails, under the clapboards of buildings, or in any place where they can find protection. As soon as the first shoots of asparagus appear in the spring, the beetles awake from their winter sleep and commence to feed on the slender tips of the plants. The sexes soon pair, and the females deposit their eggs at first on the surface of the shoots, but after the plants are grown they deposit them on the leaves near the end of the delicate branches.

The eggs are oval in outline, about one-sixteenth of an inch long, nearly black in color, and attached to the plant by one end, and they are usually in rows of from two to seven. In from seven to ten days the eggs hatch, and the larvae feed and reach their growth in from 10 to 14 days, when they are about one-fourth of an inch long, of a dull gray color, with the head and legs black and shining, and there are two black spots on the upper side of the segment following the head. When fully grown they descend to the ground, where they spin their slight cocoons under the leaves or other rubbish, and transform to pupae, in which stage they remain about ten days, when the perfect beetles emerge, and after pairing the females lay their eggs for a second generation. The round of life is so short that there is time for two, if not three, generations each year. The perfect beetle is one-fourth of an inch long. The head, antennae, legs and under side of the body are of a greenish black color; the prothorax reddish with a dark spot on each side of the middle; and the wing covers are bluish black, broadly edged with reddish yellow, with three lemon yellow spots on each—one on the base, the second a little before the middle, and the third beyond the middle. The second and third spots are nearly square, with one side touching the yellow edge of the wing-cover.

The remedies suggested by European entomologists are to pick them off by hand, or shake them off into a pan of water, when they may be killed by crushing or by putting them into boiling water. This method can be useful only where small quantities of asparagus are raised. Dr. Fitch, who investigated their habits in 1863, recommended that fowls be turned into the asparagus field and allowed to range over it, that they might destroy these insects, of which they are so fond. Mr. A. S. Fuller states in the American Entomologist that for sixteen years he used freshly shacked lime, dusting it over the plants in the morning when the dew was on; and this application was so effective in keeping the asparagus beetle in check, that about one application every alternate season was sufficient. Many gardeners are in the habit of cutting all young seedlings in the spring when the beetles are emerging from their winter quarters, thus forcing them to lay their eggs only on the new shoots. As these are cut for market nearly every day, the eggs do not have time to hatch, and therefore no second generation will appear, except a few that may feed on stray plants outside of the field in waste places, and these should always be destroyed. It has been recommended to cut down all the seed stems as soon as the asparagus season is over, and to repeat the process once or twice during the season. Mr. H. Sargent states in the Gardener's Monthly that the earliest, largest and best asparagus in his neighborhood was grown by this method of treatment, and that it had been continued for five successive years.—Prof. C. H. Fernald, in Massachusetts Agricultural College Report.

## Success in Gardening.

The Orange County Farmer tells how a truck gardener manages to make his business a success:

About two years ago Mr. Fritts began to experiment on about two acres of impoverished sandy land, and he has succeeded in making his comparatively sterile garden bloom and bear fruit with an exuberance and abundance that is the wonder of his admiring neighbors and a pleasing satisfaction to himself for his patient study and labor.

In the first place he said he had to bring up his land before he could raise anything. This he did with his manure exclusively. "In fact," he said, "I should never have begun gardening had I not had fowls. It costs too much for fertilizers, but with hens you can utilize everything."

His method of preparing and applying the manure is this: In the fall he gets up a lot of dry sand. During the winter the hen manure is gathered up every two or three days, and sand is mixed with it, until it becomes perfectly dry and the ammonia is all absorbed. Then it is pulverized, passed through a screen or sieve, and put into sacks until used. After the crop is up, a little of this fertilizer is sprinkled around the hill just before each hoeing and worked into the ground around the hill.

His method of economizing space is both novel and successful. For example, his strawberry plants are set out three feet apart. Close up on either side of the row of peas and between the rows of peas is a row of corn. The plants do well in the shade of the low peas, and by the time they are ripe and removed, the corn forms a shade for them. The second year the runners have formed a bed three feet wide, and the place occupied by the corn is used as a path between the beds. In the beans also the same economy is practiced. Corn is planted closely in rows about five feet apart, with squashes and two rows of beans between the rows of corn. The beans are out of the way before they could interfere with the growth of the corn or squashes and there is room enough for the squash vines to

spread between the rows and to admit sun to ripen the corn.

In five hundred hills of lima beans planted there is not a hill missing. These beans are planted in depressions in the ground made for the purpose about eight inches deep. When the beans come up, these depressions or pits are filled in in the process of hoeing and the ground is finally level, there being no hilling, and the beans being eight inches deep in the soil. In this way they receive more moisture and consequently more nutriment than when planted on the top of the ground and hilled up. From 25 quarts of seed of early variety he has already this year picked about 40 bushels of beans, and will have five or six bushels more. Last year from one quart of planting he sold six dollars' worth, and thinks the same may be done on a larger scale by the gardener who understands his business.

He started his cucumbers by cutting sods and placing them in a box in a warm room in the early spring. The sods were cut about four inches square, and several seeds planted in each sod. When they had a nice start, and when the ground was fit for them, he carefully removed to the garden planting sod and all, without disturbing the under roots.

## Horticultural Notes.

The horticultural products of the Mississipp Valley have an estimated value of over one hundred millions of dollars annually.

CUCUMBERS can be grown on trellises to advantage, especially where there is little room for them to run. The vines will run over brush, and the cucumbers be very fine.

WEEDS will be going to seed now if let alone and thus, besides hurting the present crop, cause work for years to come. Keep them down, not only in the growing crops but wherever vegetables have been removed.

AN English gardener says it is a microscopic insect which makes the cucumber vine club at the root, a member of the Royal Horticultural Society having made a careful examination and detected the insect at work in the root. No remedy is known.

AN old strawberry bed is said to be an excellent place for potatoes, if the strawberries can be bearing early, the bed may be plowed up and planted to potatoes, and a good crop is nearly always secured. The Peerless and Magnum Bonum are excellent sorts for this purpose.

DURING the early half of summer the black knot most usually makes its first appearance, bursting the bark which for a time is not quickly cured. For this reason it is not so quickly seen, and the leaves hide it. Some cultivators recommend waiting till the leaves fall, when it is more easily seen. But this delay may be fatal. It should be cut off promptly, and trees should be frequently and thoroughly examined. We have pursued this course for more than twenty years, cutting away all newly diseased parts whenever a close examination detected them, and have had no trouble, only a few minutes' work in a season, when thus promptly done.—Country Gentleman.

THE Horticultural Times says: "A large grower of tomatoes has found the following plan of raising plants all that can be desired. He rolls strips of resin paper into cylinders, three inches in diameter and six inches deep, looking the end by drawing two sticks through the paper and clinching them on a piece of iron pipe as an anvil or block. These bottomless cups are arranged in the frame and filled with soil in which the seed is planted. When the plants are ready to set out they are large and well rooted, and are transplanted with the cylinder around them. This is slipped up so as to project three inches above the ground and makes an obstacle over which outworn will not climb, and so the danger is evaded, as well as all risk of checking the growth by transplanting. He has set out plants already in the blossom without any check by means of this device.

Warm weather often causes extreme tired feeling and debility, and in the weakened condition of the system, diseases arising from impure blood are liable to appear. To gain strength, to overcome disease, and to purify, vitalize, and enrich the blood, take Hood's Sarsaparilla.

## Apiarian.

### A House for the Apiary.

Prof. Cook sends to the American Bee Journal drawings and descriptions of a house for the apiary which he submits to the criticism of bee-keepers. His description is of a house of three stories—a cellar 7 ft. high; first floor 8 ft., and chamber 6 ft. at the lowest part. The cellar is for wintering bees; the rooms above for honey, extracting and shop; the chamber is for storage. The cellar has two rooms. One, for bees in winter, is 18x24 ft. This is entirely underground, with a good stone wall, grouted below and plastered above, with a double floor grouted between to secure against mice and cold alike, the partition wall double with double doors. At the center of the partition wall a small chimney runs from the bottom of the cellar up to and through the roof. Just within the wall of this room is a small gutter which extends nearly around the room, from one end of a cistern to the underground sub-earth ventilation-pipe which runs 200 feet or more underground. Thus this pipe of 4-inch glazed tile serves for sub-earth ventilation, overflow-pipe for a cellar cistern, and it can be made to empty the cistern and cool the bee-cellar at any time, the water passing through the small gutter.

In the other room of the cellar, which is 8x24 ft., there is a cistern 8x14 ft., and 5 ft. high. This extends two feet into the cellar, yet the partition is tight, except a small hole just at the bottom, so we may say we have two cisterns—one a small one in the bee-cellar, the other a large one in the other cellar, though they are connected at the bottom. The other room, which is a sort of vestibule for the bee-cellar, has two windows, 12x2 feet, and stairs to the room above, which are covered by double trap-doors. This room is entirely underground, though the outer double door, which is four feet wide, is, because of a natural slope of the ground, on a level with the outside, or else is inclined so we can easily run a wheelbarrow into the cellar. The windows may receive light by a half circular excavation, or, if desired, may be above the earth at this southeast corner of the house.

Here, then, we have an arrangement by which we can control the temperature perfectly from October to May; and from an experience extending over eight years, I am sure that, with enough good food, bees are entirely safe in such a cellar. By the aid of the cistern there is no occasion to use ice to reduce the temperature in the spring; and we can by the aid of the sub-earth ventilation and cistern water, keep the temperature just to our liking all through the winter, with almost no trouble and at no expense. This is no theory; it is a demonstrated fact. As the bees can be wheeled into the cellar their removal to or from the cellar is a very light task.

On the ground floor, which is on a level with the earth outside, there are three rooms; one on the southwest, 12x15 ft., is for extracting and extracted honey; it has a hardwood floor, wide outer door, and only one thickness of wall, so that in summer it is kept very warm and so enables us to ripen honey without leaving it in the hive till it is all capped. This is also a demonstrated fact. The joists above are just so wide that they serve as frame supports. The windows are poised with weights, and these and the door have an outer gauge hinged frame. In case of the windows, this extends three inches above the outer wall, leaving a half-inch space, so that bees can easily pass out, while they do not pass in. A second room on the southeast is also the same size, but is double-walled, lath and plastered. It contains a stove, but has no outer door. It is for comb honey, for an office, and has trap doors to cellar stairs. I find that some are not in favor of this room, but I think it very desirable.

The entire north side of the building is for a shop 13x30 ft. It has a pump from the cistern below, and stairs to the chamber above. It has an outside door, four windows, and a door into each of the other rooms. There will also be a stove in this room. In winter, then, when we have a fire in either room, the chimney will be heated, and the air drawn from the bee-cellar. The wind, too, passing over the chimney, will suck the air from the cellar. In both cases the air is supplied through the long sub-earth pipes, and so is tempered by the temperature of the earth, and is kept sweet and pure. This is both theory and demonstrated fact. This room is large enough so that a small engine and some machinery can be introduced if necessary. I find that this house large enough for a large apiary, can be built for \$500; and for safety and convenience I believe it fills the bill. I cannot agree with Mr. Heddon that we had better have double-walled houses above the ground. I think the cellar far better and more convenient.

I shall be very glad to have this plan freely criticised, for, as stated before, this is a matter of great importance to all bee-keepers in the Northern States and in Canada.

## Tallow on Supers.

The Canadian Bee Journal asks: "Have any of our friends ever tried rubbing the insides or edges of supers or the outside of wide section frames with clean tallow to prevent the bees from propolisizing them? We have been experimenting a little in that direction and find that it is a good thing."

"Rub both edges of the supers with tallow and it assists materially in removal of supers when they are tired up. As a rule the bees stick a row of propolis along the joints and when you wish to remove the supers, you have to give them quite a jar, before you can separate them, and this disturbs the bees considerably. Especially is this the case in cool weather. The honey boards which are placed over the tops of frames are much more easily handled by the use of a little tallow, as also is the top hive when the tallow is rubbed on the under side. There is less danger of the rain getting to the inside of the hive when the top of the supers are tallowed. Water sometimes will get in through the small cracks, but the tallow seems to form a kind of barrier in the way of the moisture and prevents its passing into the interior of the hive."

## NEW ADVERTISEMENTS.

### BULL'S SARSAPARILLA.

Variable appetite; faint, gnawing feeling at pit of the stomach; bad breath, bad taste in the mouth, low spirits, general prostration. BULL'S SARSAPARILLA by cleansing and purifying the blood, tones up the digestive organs, and relieves the system.

### Rheumatism.

Is undoubtedly a blood disease caused by an excess of the lactic acid in the blood. Where there is perfect filtration of the blood there can be no rheumatism. BULL'S SARSAPARILLA will remove the poison, supply the acids and relieve the pain.

### Scrofula.

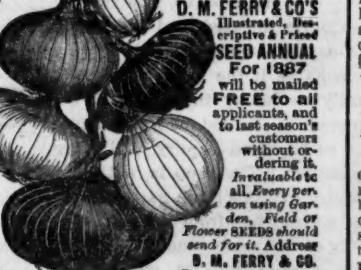
Is caused directly by impurities in the blood, usually affecting the glands, often resulting in swellings, enlarged joints, abscesses, sore eyes, blotchy eruptions on the face or neck. BULL'S SARSAPARILLA, by purifying the blood, forces the impurities from the system.

### Kidneys.

Through the Kidneys flow the waste fluid containing poisonous matter. If the Kidneys do not act properly this matter is retained and poisons the blood, causing pain in the small of the back and loins, flushes of heat, chills. BULL'S SARSAPARILLA acts as a diuretic, causing the kidneys to resume their natural functions. By irregularity in its action or suspension of its functions, the kidneys secrete the blood, causing jaundice, swollen complexion, weak eyes, bilious diarrhoea, a languid, weary feeling. These are relieved at once by the use of BULL'S SARSAPARILLA the great blood resolver.


### Over 6,000,000 PEOPLE USE FERRY'S SEEDS.

D. M. FERRY & CO. are admitted to be the LARGEST SEEDSMEN in the world.



For 1887 will be mailed FREE to all applicants, and to last season's customers without cost. Invaluable to all growers of all crops. Send for your copy. D. M. FERRY & CO. Flower Seeds and Fruit Seeds. 121 N. FERRY ST. DETROIT, MICH.

## NEW ADVERTISEMENTS.



### HOOD'S SARSAPARILLA.

Compound Extract. The importance of purifying the blood cannot be overestimated, for without pure blood you cannot enjoy good health.

At this season nearly every one needs a good medicine to purify, vitalize, and enrich the blood, and we ask you to try Hood's Sarsaparilla. It strengthens the system, creates an appetite, and tones the digestion, while it eradicates disease. The peculiar combination, proportion, and preparation of the vegetable remedies used give to Hood's Sarsaparilla peculiar power. No other medicine has such a record of wonderful cures. If you have made up your mind to buy Hood's Sarsaparilla do not be induced to take any other instead. It is a Sarsaparilla, and it is worthy your confidence. Hood's Sarsaparilla is sold by all druggists. Prepared by C. L. Hood & Co., Lowell, Mass.

**100 Doses One Dollar**

### MICHIGAN CENTRAL

Depot foot of Third street. Ticket office, 400 Woodward avenue, corner of Jefferson Avenue. Merill block, and at depot. All trains arrive and depart on Central Standard Time.

Chicago Trains.	Leave.	Arrive.
New York Limited Exp.	10:30 p.m.	6:45 p.m.
Mail, via Main & Air Line	7:30 a.m.	6:45 p.m.
Day Express	8:40 p.m.	6:45 p.m.
Kal. & S. Rivers Accom.	4:40 p.m.	11:10 a.m.
Evening Express	8:40 p.m.	7:30 a.m.
Day Express	8:40 p.m.	8:40 a.m.
GRAND RAPIDS TRAINS.		
Day Express	8:40 p.m.	6:45 p.m.
Grand Rapids Express	4:40 p.m.	11:10 a.m.
Night Express	8:40 p.m.	6:45 p.m.
SACRAMENTO AND BUTTE TRAINS.		
Bay City and Saginaw	8:45 a.m.	10:10 p.m.
MacLeay & Mackie Ex.	8:45 p.m.	11:10 a.m.
Night Express	8:45 p.m.	6:45 p.m.
Alpena Express	8:45 p.m.	6:45 p.m.
Southern Express	8:45 a.m.	8:10 a.m.
St. L. Clin. Cleve. & Col's	4:45 p.m.	11:45 a.m.
Grosse Ile Accom.	4:45 p.m.	7:30 a.m.
Cincinnati Express	7:30 p.m.	6:45 p.m.
Pacific Express	8:45 p.m.	10:30 p.m.



















## THE DROUGHT.

## The Effect Upon the Fruit Crop.

There can hardly be said to have been an excess of rainfall, at least in western Michigan, at any time during the present year; and even lands usually considered too wet, from lack of drainage, have rarely if at all, suffered from this cause during the spring and summer, so far.

Even during the spring planting there were times when plants, newly set, suffered seriously from lack of moisture.

Cold and dry weather prevailed so generally during the early spring that there was little of what is usually known as "leaf curl" of the peach; and from the absence of rain or other cause, during the season of pollenization, the bloom was well fertilized, and the crop of fruit "set" finely.

From lack of moisture or other causes, strawberries commenced to ripen earlier than usual, with promises of an abundant crop. The first ripe specimens upon the writer's grounds were of the Alpha; ripe specimens of which were gathered as early as May 27th. Slight rains on June 8th and again on the 17th, served to temporarily relieve the drought, which was already becoming serious. These showers were followed by hot, drying weather, which soon ruined the later portion of the crop, and brought the strawberry season to a premature end.

Even prior to this ripening season of raspberries, the continued drought had begun to seriously affect the plants; and the matured fruit has generally proved small and more or less shriveled. This has been especially true of the blackcaps; which have suffered far more from this cause than the red varieties, even under similar apparent circumstances. Plants kept free from weeds and cultivated, have suffered less from this cause than have neglected plantations.

The weather here (South Haven) since the slight shower of the 19th of June, already mentioned, has been steadily dry, and excessively warm; only relieved by the "land and sea breeze" which in quiet weather, during the warm season occur here, almost if not quite as regularly as at the sea shore. The result is that the season of the raspberries has been brought to a premature close.

Blackberries, which have now been ripening for several days, are withstanding the drought unexpectedly well; although a copious rain would beyond doubt, greatly increase their size, and the crop will surely be seriously diminished unless such shall occur very soon.

The earliest varieties of peaches, which are already being marketed, are much smaller than usual, in consequence of the dry weather; which is also affecting pears, apples and other fruits.

## STRAWBERRIES.

Among the newer varieties of strawberries, Alpha is yet the earliest good and productive berry. Richmond is the name bestowed, by Mr. Collins, of Allegan County, on the strawberry recently brought to notice by him. It has fruit with this year, but has not so far, warranted the reputation previously given it, so far as productiveness is concerned.

Ontario, sent out last year by J. Johnson, of Shortsville, New York, is in both plant and fruit much like Sharpless, but appears to be somewhat later, and perhaps a little less inclined to grow mis-shapen. It promises well as a late market variety.

Bancroft is a new pistillate variety, which seems to possess few specially valuable qualities. Belmont, a new Massachusetts variety, very popular in the markets of Boston, is a vigorous, healthy plant, and produces a fine crop of large and beautiful fruit, of superior quality. It possesses valuable qualities as an amateur or family variety, and seems likely also to prove profitable for the market.

Jewell has this season done better than ever before, and is rapidly coming into popular favor here, as one of the best of the market berries. It produces plants very slowly; but fruits all the more heavily on this account doubtless. It keeps up the size of the later pickings unusually well; and with its plant is vigorous and healthy. Its greatest fault is its pistillate character. It ripened this season among the very early sorts.

## RASPBERRIES.

Hansell still takes rank among the very early raspberries, but it is too small, and not sufficiently productive. A few may be planted for an early supply.

Superb is but a day or two later than Hansell and is much larger, of higher quality, and more productive; but it is unsuited to the market on account of its dark color, and its tendency to crumble in hand ling.

Michigan Early is of the same season with Hansell and Superb; but it is of poor flavor, and has no other valuable qualities to commend it.

Crinson Beauty is handicapped with a too pretentious name, which its performances do not warrant. Its berries are generally "nubbins."

Surprise is decidedly superior to the foregoing, in both size and productiveness. It has however the fault of crumbling badly in picking.

Marlboro proves to be an enormous producer of plants, and the fruit is large and showy, but indifferent in flavor. Cuthbert is decidedly the superior in favor, and we suspect will prove at least equally productive.

Shaffer still stands at the head of the list as a family berry; but owing to its dark and smoky color, the market must be educated before it will be tolerated for such purpose.

Golden Queen must override the impression that its name was intended to add its sale, before an intelligent public will fully accept it. Still it is of beautiful color, and mild, pleasant, though not rich flavor. Pity it has not a more democratic name.

Meredith, if we may judge from the performance of plants only set last spring, is every way fully as desirable as Golden Queen, and even more rich and beautiful in its rosy orange tint. It gives indications of enormous productiveness.

Indiana is a new blackcap, received from Indiana, which apparently possesses valuable qualities as a market variety, but a

trial in this exceptional season can hardly be considered conclusive as to its real value. It gives indications of great productiveness—Springfield is a thornless blackcap, also received from Indiana. It has much the appearance of Davidson's thornless, and is supposed to be the same; but with it is more vigorous, and the fruit of larger size, and hardly as early or as sweet.

## BLACKBERRIES.

Kittatiny was one of the first blackberries introduced to cultivation; and notwithstanding its alleged tenderness and liability to the attacks of rust, we would be hardly willing to set it aside for any one of the more recent varieties. It cannot be said to have an equal for large size and excellent quality.

Snyder is of fine flavor, and the plant hardy and productive. It however lacks decidedly in size; great hardness is its strongest recommendation.

Taylor is larger than Snyder, and somewhat later. It is also of great hardness. It was at one time thought to be less productive than Snyder; but more recently its reputation in this respect has improved.

Dehring is an early variety, which is by some thought to be identical with Early Harvest, to which it is very similar, although apparently distinct. Both are too tender for Michigan.

Early Cluster is highly lauded at the east, for its great productiveness; but in the two or three years' trial we have given it we have found it tender, and in consequence unproductive.

Wilson Jr. appears to be merely a reproduction of its alleged parent, the Early Wilson, with few if any improvements, so far as we have been able to discover. It rises somewhat reluctantly from the tips of the shoots, after the manner of the dewberry, and may perchance be a hybrid with this.

Erle has produced a few berries upon the last spring, which prove to be of fine quality, and the plant is, apparently, a vigorous grower.

T. T. LYON.

## Veterinary Department.

Conducted by Prof. Robert Jennings, Veterinary Surgeon, of the Michigan Farmer to all regular subscribers. The full name and address will be necessary that we may identify the subscribers. The symptoms should be accurately described to ensure correct treatment. No questions answered by mail unless accompanied by a fee of one dollar. Private address, No. 201 First St., Detroit, Mich.

Partial Paralysis.

MAKER RAPIDS, July 14th, 1887. Veterinary Editor of the Michigan Farmer. I have a thoroughbred Scotch Collie dog about a year old. Last winter in playing with a boy he tripped the boy so that he fell across his back and hurt it in some way so that the dog could hardly walk for some months. Ever since then, when he becomes suddenly excited, or starts to run suddenly, he has a very bad spell, seems to lose control of his hind-quarters, and to suffer with a cramp or some other similar action. Then he tries to keep up a running motion until he recovers, which he usually does in about five minutes, when he will drink as much as a quart of milk or water; and I notice that the next day or so he seems to be a diarrhea. His head is not apparently affected by the fit. Can you tell me what to do to cure him?

Answer.—The symptoms as described indicate partial paralysis of some of the motor nerves of the hind-quarters, upon which voluntary motion depends. The long standing of the injury lessens the chances for complete recovery. Treatment: Give internally tincture nuxvomica, commencing with one drop in a little water on the tongue once a day, gradually increasing the dose to five drops once a day. Apply Evince liniment to the back and hind-quarters twice a day. If your druggist does not keep it, use the following: Pulverized camphor, one ounce; pulverized capsicum, one ounce; proof spirits, one pint. Mix and shake well before using.

Cramp in a Colt.

GREENVILLE, N. Y. July 15, 1887. Veterinary Editor of the Michigan Farmer.

I have a three year old colt which has recently had some difficulty in using his hind legs. He will drag his toe for a little way and then bring his foot forward quickly. Then perhaps he may go two or three steps or more all right, and then repeat the same dragging movement. I thought the trouble might be in his stifles. Is there any remedy for this trouble? Please answer through the FARMER and greatly obliged.

C. O. P.

Answer.—From the symptoms as described, the trouble with your colt is evidently cramp. The symptoms though alarming are not dangerous. Apply a stimulating liniment, rubbing the leg all the way down with the hands. Linseed oil, one pint; aqua ammonia, two ounces, mixed together, is very good.

Commercial.

DETROIT WHOLESALE MARKET.

DETROIT, August 1, 1887.

FLOUR.—The weakness in wheat has caused a decline in Michigan brands. The quotations are for stock from new wheat. Spring wheats are unchanged. Market dull and easy. Quotations are as follows:

Michigan, stone process.....	\$1 50	24 00
Michigan roller process.....	3 75	24 00
Michigan patents.....	4 25	24 00
Minnesota, bakers.....	4 00	24 00
Minnesota, patents.....	4 05	24 00
Bye.....	3 25	24 00
Low grades.....	2 75	24 00

WHEAT.—Fluctuations have been light during the week, but generally downwards. Prices have been lower than at any time in twenty years the past week. There is little speculative demand. It is a good time for those who have wheat to keep it in the bin. Values cannot be held where they are.

Closing prices on Saturday were as follows: Spot—No. 1 white, 75¢; No. 2 red, 75¢; No. 3 red, 70¢. Futures—No. 2 red, August, 72¢; September, 74¢; October, 75¢.

OATS.—Firm, owing to scarcity. No. 2 spot quoted at 42¢ per bu.

RYE.—A moderate inquiry at a sharp decline. No. 2 white quoted at 25¢, and No. 2 mixed at 20¢ per bu.

BARLEY.—No sales reported.

RYE.—Quoted at 60¢ per bu., with a quiet market.

FRED.—By the car-load \$12 per ton is offered for good bran. Middlings quoted at \$12 1/2 per ton.

BUTTER.—Market firm at an advance. Choice dairy cream 140¢ per lb., with extra at 170¢. Creamery is selling at 220¢ per lb., for best, with a cent or two more offered for extra.

CHEESE.—Market steady at 9¢ per lb. for

Michigan full cream; Ohio 8 1/2¢. No New York offerings.

EGGS.—Fresh command 12¢ per doz. Receipts ample.

FOREIGN FRUITS.—Lemons, Messina, per box, \$6 75¢; oranges, Messina, per box, \$5 50¢; cocoanuts, per 100, \$5 00¢; bananas, yellow, per bunch, \$2 25¢; red, \$1 50¢; pine apples, per doz., \$2 00¢; figs, 11¢; 12¢ for layers, 12¢ for fancy.

BREWSAX.—Steady at 25¢ per bu., as to quality.

HONEY.—Quoted at 20¢ per lb. for comb, and 18¢ for extracted. Market dull.

BEANS.—Nothing doing and quotations nominal at \$1 75 per bu. for city picked mediums, and 80¢ per bu. for unpicked.

DRIED APPLES.—Market firm at 5 1/2¢ for common, and 14¢ for evaporated. Few offerings.

MAPLE SUGAR.—Quoted at 9¢ per lb. The demand light.

SALT.—Michigan, 66¢ per bbl. in car lots; eastern, 75¢; dairy, \$2 per bbl.; Ash-ton quarter sacks, 60¢.

POTATOES.—Market firm at \$2 00¢ per 30 lb. bbl. Receipts light.

ONIONS.—Scarce. Per bbl. \$3.25, and the tendency upward, it being understood that excessive heat and dryness is injuring the crop the country over.

POULTRY.—Market quiet; turkeys and spring chickens low. Hens firm. Quoted as follows: Live, 9¢; broilers, 6¢; hens, 5¢; turkeys, 10¢; ducks, 7¢; spring chickens, 12¢; 12 1/2¢; 13¢; pigeons, 20¢; 25¢; spring ducks, 40¢.

HIDES.—Green city, 20¢ per lb. country, 15¢; cured, 8¢; green calf, 70¢; salted do, 8¢; sheep-skins, 20¢ each; bulls, stag and grubby hides 15¢.

FRUIT.—Blackberries selling at 20¢ per 10 lb. 1/2-bu. crates for cultivated, and \$1 50¢ per 10 lb. for wild. Grapes are selling at 10¢ per bu. by the basket for Southern, generally lives Seedling. Peaches are steady at \$2 50¢ per 10 lb. 1/2-bu. crates, 40¢ per 10 lb. peck basket, and \$1 00 per 10 lb. peck. Pears quoted at \$4 00 per 10 lb. for Bells. Southern, 60¢ per 10 lb. 1/2-bu. box and \$2 30¢ per 10 lb. peck. Huckleberries quoted at \$4 00 per stand.

TOMATOES.—Quiet at 75¢ per 10 lb. box for southern.

VEGETABLES.—Quoted as follows: Per doz bunches: Onions, 25¢; 30¢; pie plant, 25¢; 30¢; parsley, 30¢; 35¢; beets, 30¢; carrots, 25¢; 30¢. Per doz, cucumbers, 30¢; squash, 40¢; egg plant, 25¢; 30¢; cauliflower, \$1 25¢; 1 50¢; corn, 10¢. Per bu, green peas, 90¢; 1 1/2; wax beans, \$1 25¢ per 100.

WATERMELONS.—Prices range at 15¢ per 100, as to quality.

APPLES.—The market rather easier, not on account of excessive offerings but through scarcity of stock of high enough quality to bring former figures. Quoted at 30¢ per 100 box and \$2 50¢ per 100 bbl.

PROVISIONS.—Barrelled pork has advanced and is firm; lard is a shade lower; smoked meats are firm, with an upward tendency. Quotations here are as follows:

New mess.....	16 25	26 50
Family.....	16 25	26 50
Short clear.....	17 25	27 50
Long clear.....	16 25	26 50
Lard in kegs, 5 lb.....	6 50	7 50
Hams, 7 lb.....	12 50	13 50
Shoulders.....	7 50	8 50
Choice bacon, 5 lb.....	10 50	11 50
Extra mess beef, per bbl.....	7 50	8 50
Yellow.....	7 50	8 50

HAY.—The following is a record of the sales at the Michigan Avenue scales for the past week, with prices per ton:

Monday—29 loads: Six at \$9 and \$8; five at \$11; four at \$10; one at \$10 50 and \$9 50; one at \$12; one at \$11 25 and \$10 25.
Tuesday—27 loads: Six at \$11; four at \$10 50 and \$9; three at \$12 and \$10; two at \$12 25 and \$9 50; one at \$11 50, \$10 and \$8 50.
Wednesday—17 loads: Six at \$10; three at \$9; two at \$8; one at \$12 50, \$11 50, \$11, \$10 50 and \$7 50.
Thursday—19 loads: Six at \$12 and \$10; four at \$11; two at \$9; one at \$10 50.
Friday—18 loads: Seven at \$10; three at \$12 and \$9; two at \$11; one at \$11 50, \$9 50 and \$8 50.
Saturday—7 loads: Four at \$10; two at \$11; one at \$12.

LIVE STOCK MARKETS.

At the Michigan Central Yards.

Saturday, July 30, 1887.

CATTLE.

The offerings of cattle at these yards numbered 623 head, against 569 last week. The bulk of the receipts were western cattle and mostly consigned to local dealers direct. Of Michigan cattle the small number on sale was hardly sufficient to establish prices, but the few offered were taken at a shade stronger prices than those of last week. The following were the closing

quotations:

Extra graded steers, weighing 1,300 to 1,450 lbs.....	\$4 00	24 50
Choice steers, fine, and well formed, 1,100 to 1,300 lbs.....	3 50	23 50
Good steers, well fattened, weighing 1,000 to 1,100 lbs.....	3 25	23 00
Good mixed butchers' stock—Fat cows, heifers and light steers.....	4 00	23 50
Common mixed butchers' stock—Light cows, heifers, stags and bulls.....	2 50	23 00
Bulls.....	2 00	22 50

Newman sold Capita a mixed lot of 5 head of fair butchers' stock at 80¢ lbs at \$2.25.

Allen sold McIntire 10 fair heifers at 74¢ lbs at \$2.25.

Cullen sold Reagan 3 fair cows at 95¢ lbs at \$2.25, and 2 bulls at 92¢ lbs at \$2.25.

Brown & Spencer sold John Robinson a mixed lot of 22 head of good butchers' stock at 80¢ lbs at \$3.20, and a bull weighing 1,100 lbs at \$2.

C. R. sold John Robinson a mixed lot of 16 head of good butchers' stock at 84¢ lbs at \$3.20, and 3 at 87¢ lbs at \$3.20.

SHEEP.

The offerings of sheep numbered 1,402 head, against 923 last week. The sheep market opened up a little slow, at prices 10¢ to 15¢ below the rates of last week. The quality averaged poor, and several loads went through in first hands.

Thayer sold Switzer & Ackley 40 at 80¢ lbs at \$2.25, and 12 at 85¢ lbs at \$2.25.

Allen sold Deer 31 at 77¢ lbs at \$3.20.

Haywood sold Fitzpatrick 128 at 65¢ lbs at \$3.

Watson sold Fitzpatrick 102 at 76¢ lbs at \$3.

Smith sold John Robinson 20 at 99¢ lbs at \$3.25.

Allen sold Burt Spencer 125 at 64¢ lbs at \$2.80.

Stang sold Burt Spencer 32 at 64¢ lbs at \$2.80.

ROGS.

The offerings of hogs numbered 1,303 head, against 1,097 last week. The hog market opened up with a fair demand, shippers taking hold to some extent for the first time in several months. The receipts were not as good as usual, thin "grassy" hogs making up a good portion of them. Prices as compared with those of last week, taking the quality into consideration, were about 10¢ to 15¢ lower.

C. R. sold Webb Bros 240 at 194¢ lbs at \$5.10.

Allen sold Webb Bros 94 at 177¢ lbs at \$5.

Thayer sold Switzer & Ackley 9 at 240¢ lbs at \$5.

Deer sold Webb Bros 22 at 194¢ lbs at \$4.90.

Gleason sold Webb Bros 29 at 193¢ lbs at \$5.

Wallace sold Webb Bros 21 at 158¢ lbs at \$4.60.

C. R. sold Webb Bros 115 at 192¢ lbs at \$5.10.

Watson sold Webb Bros 16 at 190¢ lbs at \$4.90.

Adgate sold Webb Bros 72 at 189¢ lbs at \$5.

Judson sold Sullivan & F 61 at 159¢ lbs at \$4.60.

C. R. sold Sullivan & F 88 at 167¢ lbs at \$5.

Haywood sold Webb Bros 27 at 203¢ lbs at \$4.80.

STEVENS.

Stevenson sold Webb Bros 53 at 185¢ lbs at \$4.90.

Newman sold Webb Bros 54 at 185¢ lbs at \$4.90.

C. R. sold Webb Bros 80 at 205¢ lbs at \$5.10.

KING'S YARDS.

Saturday, July 30, 1887.

CATTLE.

The market opened up at these yards with 780 head of cattle on sale. There was good attendance of buyers, and the market ruled active at strong last week's prices. The receipts of western cattle continued liberal, and so long as our Michigan cattle have to compete with them, but little improvement can be looked for in prices. Prices on western cattle range here from \$2.50 to \$3.25 per hundred.

Boardley sold J. W. Ford 12 good butchers' steers at 97¢ lbs at \$3.60.

Merritt sold Fitzpatrick 4 good cows at 1,100 lbs at \$2.25.

Hogan sold R. Capita a mixed lot of 10 head of fair butchers' stock at 84¢ lbs at \$3, and 2 bulls at 1010 lbs at \$2.

Wreford & Beck sold Kelly 22 mixed westerns at 56¢ lbs at \$2.50, and 25 to Marx at 82¢ lbs at \$2.25.

Kalisher sold Fitzpatrick 10 fair heifers at 750 lbs at \$2.25.

Guthrie sold Harland a mixed lot of 15 head of good butchers' stock at 80¢ lbs at \$3.35, and 2 bulls to Rauss at 1,350 lbs at \$2.50.

Kalisher sold Marshall a mixed lot of 6 head of fair butchers' stock at 88¢ lbs at \$3.2.

Longcor sold Rauss 5 bulls at 970 lbs at \$2.40.

Wreford & Beck sold Phillips & Wreford 62 mixed westerns at 630 lbs at \$3.

Robb sold Kauffman a mixed lot of 8 head of fair butchers' stock at 82¢ lbs at \$3, and a bull weighing 650 lbs at \$2.

Vanbushkirk sold Fitzpatrick a mixed lot of 10 head of coarse butchers' stock at 76¢ lbs at \$2.50.

Purdy sold Kauffman a mixed lot of 8 head of fair butchers' stock at 91¢ lbs at \$3.25, and 2 bulls at 620 lbs at \$2.25.

Boardley sold Voigt a mixed lot of 8 head of fair butchers' stock at 91¢ lbs at \$3.25, and 2 bulls at 620 lbs at \$2.25.

Wreford & Beck sold Kelly 22 mixed westerns at 56¢ lbs at \$2.50, and 25 to Marx at 82¢ lbs at \$2.25.

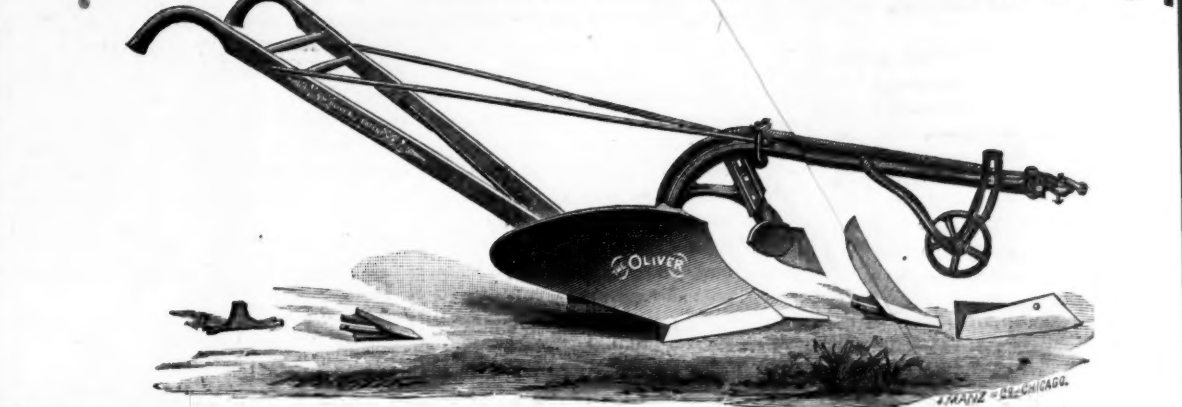
Kalisher sold Marshall a mixed lot of 6 head of fair butchers' stock at 88¢ lbs at \$3.2.

Longcor sold Rauss 5 bulls at 970 lbs at \$2.40.

## The Oliver Chilled Plow Works

CALL ATTENTION TO THE REMARKABLE SUCCESS OF

## OLIVER'S COMBINATION PLOWS!



Which have Fairly Captured the State of Michigan by their own Merits.

The above Cut shows the No. 99 Steel Beam Combination Plow and the same Plow with a number of other patterns and sizes is made with wood beam. These plows are fitted with Reversible Shares and Points, self-sharpening by Steel Slip Points, adapting them for any soil.

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Oliver's Chilled Plows, Oliver's Steel Plows, and Oliver's Sulky Plows also made in great variety and warranted the best of their kind.

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at \$2 75¢ 25; common to fair, \$3 75¢ 25; good to choice, \$4